**K-5 Math Lesson Plan**

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| **Teacher: Hafez, Richmond, Shaw, Thomas** | | | **Grade: 5** | | | **Date(s)**: August 2012 |
| **Unit Title: Understanding the Decimal Place Value System** | | | | **Corresponding Unit Task: 2012 Summer Olympics**  **Unit 1 Task 1 – Taught prior to Task 1** | | |
| **Essential Question(s): How can I read and write decimal numbers to the thousandths using base ten numerals, number name, and expanded form?** | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher:**  **Copies of Wheaties checks** | | **Student:**  **Pencil**  **Math journal**  **Calculator**  **Red and green (and blue for language development) crayons or colored pencils**  **Guided practice sheets**  **Highlighters**  **White boards and markers**  **Number tiles** | | | **Tenths**  **Hundredths**  **Thousandths**  **Base ten numeral (standard form)**  **Number name (word form)**  **Expanded Form**  **Place Value**  **Pattern**  **Decimal**  **Decimal Point (. – read “and”)**  **\*Fraction <-> Decimal**  **\*Optional Vocabulary** | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  √ 1. Make sense of problems and persevere in solving them.  √ 2. Reason abstractly and quantitatively.  √ 3. Construct viable arguments and critique the reasoning of others.  √ 4. Model with mathematics.  5. Use appropriate tools strategically.  √ 6. Attend to precision.  √ 7. Look for and make use of structure.  √ 8. Look for and express regularity in repeated reasoning. | **Common Core State Standards: 5.NBT.3a – read and write decimal numbers to the thousandths using base ten, number name and expanded form.** | | | | | |
| **I Can Statement(s):**  **I can read and write decimals to the thousandths using number name.**  **I can read and write decimals to the thousandths using expanded form.**  **I can read and write decimals to the thousandths using base ten numerals.** | | | | | |
| **Activating Strategy/Hook:** Read students the following scenario. “You have just received a gold medal for your winning participation in the Olympics. Wheaties was so impressed with your ability and performance that they have offered you a contract to be on their cereal box and do commercials for them. They are paying you $656,284 for the contract. Your job is to fill in and sign the check they are writing you. In the Memo, put the sport you won your medal in.”  Direct students to fill in the standard (base ten numerals), expanded, and word (number name) form on the check. (see attached)  \*\*Be sure to ensure that all forms are addressed – see below\*\*  Standard (base ten numerals) – 656,284  Expanded – (6 x 100,000) + (5 x 10,000) + (6 x 1,000) + (2 x 100) + (8 x 10) + (4 + 1)  600,000 + 50,000 +1,000 + 200 + 80 + 4  6 hundred thousands + 5 ten thousands + 1 thousand + 2 hundreds + 8 tens + 4 ones  Word (number name) – six hundred fifty-six thousand, two hundred eighty-four  6 hundred 56 thousand, 2 hundred 84  See attached check for students to use. | | | | | |
| **Teacher Directed: \_**\_\_\_ \_\_\_\_\_ \_\_\_\_\_, \_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ - Teacher will copy the charts on the board. Have students copy the diagram into their journals and fill in the following:   * Write 3 in the tens place * Write 0 in the thousands place * Write 8 in the ones place * Write 7 in the ten thousands place * Write 2 in the hundreds place * Write 6 in the hundred thousands place   Ask students to read the number they created.  Draw a place value chart on the board. Write the number 23.145 in the chart. Introduce the students to the places after the decimal. Explain to the students that all places after the decimal end in a ‘ths’. Model for students how to determine the value of each digit and how to represent it in various forms (standard/base ten numerals, expanded, and word/number name). Be sure to include fractions in expanded form. For example: .7 is 7/10; .05 is 5/100; .009 is 9/1000. | | | | | |
| **Guided Practice:** Teacher will say that the U.S. set an Olympic record in the 100m backstroke. It was 59.68 seconds. You can read the number as fifty nine and sixty eight hundredths seconds. Teacher will guide the students to place the numbers in the appropriate places. Teacher will guide students to represent the number in standard/base ten numerals, expanded and word/number name. Teacher will create additional numbers if needed.  Teacher will guide students to the guided practice worksheet in which students will practice writing decimal numbers in various forms. Students will also complete word problems with the teacher. (see attached) | | | | | |
| **Independent Practice:** Students will work on Olympic Qualifying worksheet. Students will color the three matching qualifying times in green and the “disqualified” times in red. They will then write the disqualified time in the two remaining forms. | | | | | |
| **Closing/Summarizing Strategy:** Teacher will give students number tiles. In groups students create the number the teacher calls. Then the teacher will have the groups create the number in expanded and word form. Teacher will call one group to put their answer on the board, then groups will compare their answers to the answer on the board. | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| Students will pair up and write word problems with decimals. They will switch problems with their partner and have their partner represent the decimal numbers in a variety of ways. | | | Students will highlight the tenths, hundredths and thousandths place in different colors. | | | Students will write whole numbers in blue and the decimals in red. Review the vocabulary for the value and places of numbers. Students will be reminded that the numbers in red will end in “th” |
| **Assessment(s):**  Teacher will conduct an informal assessment as students are participating in the closing/summarizing strategy. | | | | | | |
| **Teacher Reflection:**   * Student understandings/misconceptions * Specific notes about students’ thinking * What do I need to reteach/review tomorrow or in the future * New ideas or changes for next time | | | | | | |

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GUIDED PRACTICE – DECIMALS

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| STANDARD (Base Ten Numbers) | EXPANDED | WORD (Number Name) |
| 46.059 |  |  |
|  | (8 x 10) + (1 x 1) + (2 x 1/10) + (5 x 1/100) + (6 x 1/1000) |  |
|  |  | One hundred ninety-two and four hundred twenty-six thousandths |

1. Brian Lochte swam the 200m butterfly in 48.294 seconds. Michael Phelps swam it in 47.359. Write each time in expanded form?
2. The start value of the floor exercise for the US women’s Olympic gymnastics team is 16.231. What is this in word form (number name)?
3. The combined times for the US track team 400m relay is 189.375 seconds. Janet said this number is represented as one hundred eighty-nine thousand, three hundred seventy-five. Gary said it was (1 x 100,000) + (8 x 10,000) + (9 x 1,000) + (3 x 1/10) + (7 x 1/100) + (5 x 1/1000). Who is correct and why?

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OLYMPIC TRACK TEAM QUALIFYING TIMES

Color the matching number forms green. Color the one that does not match red. Using the number form that does not match, write the number in the other two forms.

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| **32.64** | **Thirty-two and sixty-four thousandths** | **(3 x 10) + (2 x 1) + (6 x 1/10) + (4 x 1/100)** | **Thirty-two and sixty-four hundredths** |

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| **Two hundred twenty-nine and four hundred eighty-six thousandths** | **229.486** | **229,486** | **200 + 20 + 9 + .4 + .08 + .006** |

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| **(7 x 10) + (4 x 1) + (6 x .1) + (9 x .01) + (1 x .001)** | **Seventy-four and six hundred ninety-one thousandths** | **74.691** | **(7 x 100) + (4 x 10) + (6 x 1) + (9 x .01) + (1 x .001)** |

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BANK OF WHEATIES CHECKS



